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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/864,309

05/25/2001

Shigeyuki Uzawa

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07/07/2006

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EXAMINER

JARRETT, RYAN A

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/864,309

Applicant(s)

UZAWA ET AL.

Examiner

Ryan A. Jarrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 48-58 and 60-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 48-58 and 60-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. In reference to the Office Action mailed on 01/20/2006, although Hasegawa et al. 5,746,562 teaches flowing a gas through the chamber and purging an atmosphere in the chamber with an inert gas, Hasegawa does not disclose the use of a "conditioner", which is interpreted to mean an "air conditioner". This is why the rejection was withdrawn.

2. Applicant's arguments filed on 4/20/06 have been fully considered but they are not persuasive. Applicant argues that Tokuda et al. does not teach or suggest the features of a pump configured to create a vacuum below atmospheric pressure in the port.

However, Tokuda et al. discloses an exhausting apparatus (claimed "pump") configured to create a negative suction pressure (claimed "vacuum below atmospheric pressure") in the connection section (claimed "port"). See paragraph [0087]. The ordinary dictionary definition of "negative pressure" (Dictionary.com) is "pressure that is less than existing atmospheric pressure". Thus, the negative pressure of Tokuda et al. equates to a vacuum below atmospheric pressure.

The fact that Tokuda et al. discloses that the internal pressure of the connection section 53 is set to be *higher* than the pressure of the clean room 58 does not preclude Tokuda et al. from disclosing a pump configured to create a vacuum *below* atmospheric

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pressure in the port. Applicant seems to be implying that the clean room of Tokuda et al. must be equal to or greater than atmospheric pressure, thus causing the port pressure to be greater than atmospheric pressure. However, Tokuda et al. does not disclose that the clean room is equal to greater than atmospheric pressure, nor is there any requirement in the art for clean rooms to be held equal to or greater than atmospheric pressure.

Furthermore, apparatus claims must be structurally distinguishable from the prior art. There is no perceived structural difference between Applicant's claimed "pump" and Tokuda et al.'s "exhausting apparatus". Both devices are designed to create a negative suction pressure, or vacuum. The act or method of creating a pressure "below atmospheric pressure in said port" is an intended result of applying a negative pressure to the port by way of a pump or exhausting apparatus. Whether or not the resulting pressure in the port is actually below "atmospheric pressure" has nothing to do with the structure of the pump itself, but rather on external factors and circumstances that are completely independent of the pump itself. The "exhausting apparatus" of Tokuda et al. is clearly capable of achieving this intended result, depending on external factors independent of the pump itself.

While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed

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apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). See MPEP 2114.

Therefore, even if Tokuda et al. explicitly disclosed that the clean room was equal to or greater than atmospheric pressure (which he does not disclose), thus causing the port section to also be greater than atmospheric pressure (in contrast to the claimed functionality), it would still not preclude Tokuda et al. from disclosing the claimed apparatus since Tokuda et al. still discloses an “exhausting apparatus” that is structurally equivalent to Applicant’s claimed “pump”, said “exhausting apparatus” of Tokuda et al. being clearly capable of creating a vacuum “below atmospheric pressure in said port”.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 48, 54, 58, and 60-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Tokuda et al. US 2003/0038929. For example, Tokuda et al. discloses

**48. An exposure apparatus for exposing a wafer to an exposure light via a pattern of a reticle, said apparatus comprising:**

**a chamber in which the exposure light passes (e.g., Fig. 1, [0031]: “casing 15”);**

**a conditioner (e.g., [0083]-[0084]: “air conditioning system”) configured to flow an inert gas through said chamber and to purge (e.g., [0035]: “removing or deactivating impurities”) an atmosphere in said chamber with the inert gas (e.g., [0067]: “supplying nitrogen gas to inside of the lens barrel 15”, [0068]: “nitrogen gas is adopted for purging”); and**

**a port (e.g., [0087]: “connection section 53”) through which the wafer is transferred between said chamber and another apparatus outside of said exposure apparatus, said port having a load-lock mechanism including a pump configured to create a vacuum below atmospheric pressure in said port (e.g., [0087]: “The construction is such that air inside the connection section 53 is exhausted by the negative suction pressure of a clean room exhausting apparatus connected to the ventilation port, or by the exhaust pressure of an exhaust fan installed in the ventilation port.”) and a supply mechanism configured to supply the inert gas into said port (e.g., [0030]: “a gas supplying device (10) for supplying a predetermined gas to inside the connection unit”) after the vacuum is created, so that an atmosphere in said port is substantially the same as an atmosphere in same chamber (e.g., [0031]:**

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“a first detection device (20) for detecting a condition change of the gas inside the casing (15), and a supply quantity regulating device (22) for regulating a supply quantity of inert gas from the gas supplying device (10) based on detection results of the first detection device (20)”).

**54. An apparatus according to claim 48, wherein the other apparatus includes a coating/developing system (e.g., [0021]).**

**58. An apparatus according to claim 48, wherein said chamber comprises a temperature control mechanism for controlling a temperature of the wafer (e.g., [0083]: “temperature control system for compensating for operational accuracy of the exposure apparatus”).**

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuda et al. as applied to claim 48 above, and further in view of Hasegawa et al. US 5,746,562. Tokuda et al. does not appear to explicitly disclose the features recited in claims 49-53. However, Hasegawa et al. discloses an exposure apparatus including a plurality of ports (e.g., Fig. 3 #102a, #102b); wherein said plurality of ports comprise a first port configured to load the wafer (e.g., Fig. 3 #102a) and a second port configured to unload the wafer (e.g., Fig. 3 #102b); further comprising an interface section (e.g., Fig. 3 #121) for stocking a wafer between said port and another apparatus (e.g., Fig. 3 #131, #132); wherein said interface section includes a load-lock mechanism (e.g., Fig. 3 #122a, #122b); wherein said interface section is shared by a plurality of said ports (e.g., Fig. 3 #121, #102a, #102b).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tokuda et al. with Hasegawa et al. in order to provide a separate path for incoming and outgoing wafers in the process chamber, as taught by Hasegawa et al., so as to reduce congestion and increase throughput.



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7. Claims 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuda et al. as applied to claim 48 above, and further in view of Ueda et al. U.S. Patent No. 6,319,322. Tokuda et al. does not explicitly disclose that the port section includes a temperature control mechanism comprising at least one of a heater and a cooler.

However, such devices are well known in the art. For example, Ueda et al. discloses a substrate processing apparatus comprising an aligner process chamber that includes a temperature control mechanism (e.g., col. 1 lines 50-53); and further comprising a port section that includes a temperature control mechanism that includes at least one of a heater and a cooler (e.g., col. 1 lines 61-64, col. 8 lines 28-37). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant application to modify Tokuda et al. with Ueda et al. since Ueda et al. teaches that a temperature regulating means for regulating the temperature of a substrate held by a port section in accordance with the temperature regulation in an aligner is advantageous so that the substrate can be delivered to the aligner in a state where the temperature of the substrate is regulated closer to the temperature required in the aligner. Accordingly, the temperature of the substrate can be more accurately regulated in the aligner in a shorter time, so that circuit patterns can be accurately transferred, and throughput can be improved by speeding up the processing (e.g., col. 1 line 65 – col. 2 line 8).

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

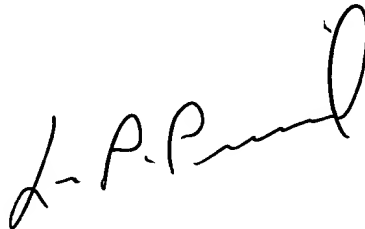
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

6/25/06  
RAJ



Ryan A. Jarrett  
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Art Unit 2125

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